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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CUMBERLEDGE, JERRY L	
ART UNIT	PAPER NUMBER
3733	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,014	JAHNG, TAE-AHN	
	Examiner	Art Unit	
	Jerry Cumberledge	3733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/16/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see pages 5-7, filed 01/31/2007, with respect to the objection of the specification under 35 U.S.C. 112, first paragraph have been fully considered and are persuasive. Therefore, the objection has been withdrawn. Furthermore, since the objection to the specification has been withdrawn, and since the previous rejections under 35 U.S.C. 102 and 35 U.S.C. 103 were made based on an interpretation of the claims that was consistent with the objection to the specification, the previous rejections under 35 U.S.C. 102 and 35 U.S.C. 103 have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ferree (US Pub. 2003/022064 A1) and Paul et al. (US Pat. 6,986,771 B2).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Ferree (US Pub. 2003/022064 A1).

Ferree discloses a flexible connection unit for use in a spinal fixation device, the flexible connection unit comprising a solid metal rod (Fig. 6A, ref. 602) having grooves formed in a spiral configuration along at least a portion of the rod (Fig. 6A, groves along ref. 602) so as to provide flexibility to the rod, the connection unit having a first portion (Fig. 6A, portion near ref. 604) configured to be coupled to a first securing member and a second portion (Fig. 6A, portion near ref. 604) configured to be coupled to a second securing member. The solid metal rod is made from a material selected from the group consisting of: stainless steel, iron steel, titanium, titanium alloy and NITINOL (paragraph 0034). The rod is cylindrical in shape (Fig. 6A). The grooves are cut toward a center longitudinal axis of the rod (Fig. 6A). The grooves spiral around the rod (Fig. 6A).

Claims 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Paul et al. (US Pat. 6,986,771 B2).

Paul et al. disclose a flexible connection unit for use in a spinal fixation device comprising a solid metal rod (Fig. 10A, ref. 86) having a plurality of transverse tunnels (Fig. 10A, ref. 88) formed within at least a portion of the solid metal rod so as to provide flexibility to the rod (column 2, lines 30-45), the connection unit having a first portion configured to be coupled to a first securing member (Fig. 10, end near top of ref. 86) and a second portion (Fig. 10A, end near bottom of ref. 86) configured to be coupled to a second securing member. The solid metal rod is cylindrical in shape (Fig. 10A) and each transverse tunnel passes through a center longitudinal axis of the cylindrical rod (Fig. 10A) such that openings for each respective transverse tunnel are located on

opposite sides of the cylindrical wall of the rod (Fig. 10A, since there are openings are on the right and left sides of the device). Each transverse tunnel passes through the center longitudinal axis of the cylindrical rod at a predetermined angle, since the inside of the rod is open, passes through the longitudinal axis of the rod, and connects with all the tunnel. Adjacent transverse tunnels share a common opening on one side of the cylindrical wall, forming a zig-zag pattern of interior tunnels passing transversely through the central longitudinal axis of the rod (Fig. 10A, the zigzag pattern that appears on ref. 86).

With regard to statements of intended use and other functional statements (e.g. ...configured to be coupled...), they do not impose any structural limitations on the claims distinguishable over the devices of Ferree and Paul et al., which are capable of being used as claimed if one so desires to do so. *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Furthermore, the law of anticipation does not require that the reference "teach" what the subject patent teaches, but rather it is only necessary that the claims under attack "read on" something in the reference. Kalman v. Kimberly Clark Corp., 218 USPQ 781 (CCPA 1983). Furthermore, the manner in which a device is intended to be employed does not differentiate the claimed apparatus from prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferree (US Pub. 2003/022064 A1).

Ferree discloses the claimed invention except for the grooves having a depth between 1 and 4 millimeters and a width between 0.1 and 0.5 millimeters; the grooves spiral around the rod at an angle 0 from horizontal between 50 and 80 degrees and wherein the spacing between adjacent spirals of the groove is between 3 and 6 millimeters and the rod having a length between 4 and 8 centimeters and a cylindrical diameter between 4 and 8 millimeters.

With regard to claims 3-5, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the device of Ferree with the grooves having a depth between 1 and 4 millimeters and a width between 0.1 and 0.5 millimeters; the grooves spiraling around the rod at an angle 0 from horizontal between 50 and 80 degrees and wherein the spacing between adjacent spirals of the groove is between 3 and 6 millimeters and the rod having a length between 4 and 8 centimeters and a cylindrical diameter between 4 and 8 millimeters, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferree (US Pub. 2003/022064 A1) in view of Koo et al. (US Pub. 2001/0049559 A1).

Ferree discloses the claimed invention except for the flexible connection unit further includes a plurality of transverse tunnels formed within at least a portion of the solid metal rod. Each transverse tunnel passes through a center longitudinal axis of the cylindrical rod such that openings for each respective transverse tunnel are located on opposite sides of the cylindrical wall of the rod. Each transverse tunnel passes through the center longitudinal axis of the cylindrical rod at a predetermined angle and wherein adjacent transverse tunnels share a common opening on one side of the cylindrical wall, forming a zig-zag pattern of interior tunnels passing transversely through the central longitudinal axis of the rod. The location of the common openings overlap with the location of the grooves on the exterior surface of the rod.

Koo et al. disclose a spinal implant that has a plurality of transverse tunnels (Fig. 4, ref. 30) formed within at least a portion of a rod (Fig. 4, ref. 1). Each transverse tunnel passes through a center longitudinal axis of the cylindrical rod at a predetermined angle (Fig. 4) wherein adjacent transverse tunnels share a common opening on one side of the cylindrical wall, forming a zig-zag pattern of interior tunnels passing transversely through the central longitudinal axis of the rod. Regarding the common openings and the zig-zag pattern, since the tunnels (Fig. 4, ref. 30) connect with the internal aperture (Fig. 3, ref. 40)(paragraph 0027), any opening can be considered to be a common opening, with the "exits" of the opening being adjacent "exits" (refs. 30) on the opposite

side of the rod. As such, Koo et al. discloses a common opening one side, which can form a zig-zag pattern throughout the rod. The location of the openings overlap with the location of grooves (Fig. 4, ref. 20) of the exterior surface of the rod. The tunnels are useful in allowing communication between the external environment surrounding the rod and the internal environment of the rod (paragraph 0030).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the device of Ferree with the tunnels as taught by Koo et al., in order to allow communication between the external environment surrounding the rod and the internal environment of the rod (paragraph 0030).

With regard to claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the device of Ferree in view of Koo et al. with each of said plurality of transverse tunnels having an internal diameter between 0.2 and 3 millimeters, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul et al. (US Pat. 6,986,771 B2).

Paul et al. disclose the claimed invention except for the plurality of transverse tunnels having an internal diameter between 0.2 and 3 milimeters.

With regard to claim 14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the plurality of

transverse tunnels of Paul et al. having an internal diameter between 0.2 and 3 milimeters, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Cumberledge whose telephone number is (571) 272-2289. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on (571) 272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLC

EDUARDO C. ROBERT
SUPERVISORY PATENT EXAMINER